UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

WACOH COMPANY,

Plaintiff,

v.

ANALOG DEVICES, INC.
and ROBERT BOSCH LLC,

Defendants.
_______________________________________/

Case No. 2:09-CV-10119
(Consolidated with No. 2:09-CV-10123)

Honorable Julian Abele Cook, Jr.

Magistrate Judge Michael Hluchaniuk

Hearing date: Nov. 16, 2010, 9:00 a.m.

DEFENDANTS ANALOG DEVICES, INC.'S AND ROBERT BOSCH LLC'S OPENING CLAIM CONSTRUCTION BRIEF

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ISSUE PRESENTED

Claim construction is a matter of law by which the trial court defines the proper scope of the claimed invention in a patent. The parties disagree on the meaning of the following eight claim terms in the patent-in-suit, U.S. Patent No. 6,512,364 (the "'364 patent"):

- "a transducer for transforming said spatial deviation into an electric signal"
- "working body"
- "spatial deviation"
- "providing a capacitance element"
- "capacitance element"
- "deviation electrode"
- "fixed electrode"
- "Coulomb force"

The issue presented is how these terms should be defined, in the light of how the inventor described the boundaries of his alleged invention in the '364 patent.

CONTROLLING OR MOST APPROPRIATE AUTHORITIES

Markman v. Westview Instruments, Inc., 517 U.S. 370 (1996)

Phillips v. AWH Corp., 415 F.3d 1303 (Fed. Cir. 2005) (*en banc*)

Becton, Dickinson & Co. v. Tyco Healthcare Group, LP, Nos. 2009-1053, 2009-1111, ___ F.3d ____, 2010 WL 2977612 (Fed. Cir. July 29, 2010)

ICU Med., Inc. v. Alaris Med. Sys., Inc., 558 F.3d 1368 (Fed. Cir. 2009)

Honeywell Int'l, Inc. v. ITT Indus., Inc., 452 F.3d 1312 (Fed. Cir. 2006)

C.R. Bard, Inc. v. United States Surgical Corp., 388 F.3d 858 (Fed. Cir. 2004)

Gaus v. Conair Corp., 363 F.3d 1284 (Fed. Cir. 2004)

Microsoft Corp. v. Multi-Tech Sys., Inc., 357 F.3d 1340 (Fed. Cir. 2004)

Alloc, Inc. v. International Trade Comm'n, 342 F.3d 1361 (Fed. Cir. 2003)

SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc., 242 F.3d 1337 (Fed. Cir. 2001)

Honeywell Int'l, Inc. v. ITT Indus., Inc., 330 F. Supp. 2d 865 (E.D. Mich. 2004)

Analog Devices, Inc. ("ADI") and Robert Bosch LLC ("Bosch") respectfully submit this opening brief in support of their proposed constructions of the disputed claim terms of the patent-in-suit, U.S. Patent No. 6,512,364 (the " '364 patent").

I. INTRODUCTION

Wacoh Company ("Wacoh") alleges that ADI and Bosch infringe the '364 patent through the manufacture and sale of accelerometers. An accelerometer is a type of sensor that detects sudden acceleration or deceleration, *i.e.*, a change in speed. ADI and Bosch design and manufacture accelerometers, primarily for use in airbags and other systems used in automobiles. When an automobile is involved in a collision, accelerometers detect the resulting sudden deceleration or acceleration and send electrical signals that trigger deployment of an airbag.

The '364 patent claims as the invention a certain type of sensor that requires "mechanical deformation" of piezoresistive material to trigger the electrical signal. A "piezoresistive" material is one whose electrical resistance changes when the material's shape is compressed or deformed. In the type of sensor disclosed in the '364 patent, a sudden change in speed causes a body that is suspended like a pendulum to swing, which bends piezoresistive material connected to the pivot point of the pendulum. The resulting deformation changes the electrical resistance of the piezoresistive material — a change that can be measured and converted into an electrical signal used to trigger deployment of the airbag. The '364 patent refers to the deformation of the piezoresistive material as "mechanical deformation" and characterizes this deformation as an essential feature of the invention.

In this case, claim construction presents case-dispositive issues. Because the accused ADI and Bosch accelerometers do not use mechanical deformation to trigger the electrical signal, the '364 patent, as properly construed, has no applicability to them. The accused accelerometers use an entirely different design that does not employ piezoresistive material or deformation of any material to trigger the signal. Wacoh is thus taking claim construction positions that seek to eliminate the critical "mechanical deformation" requirement and extend the patent to all types of sensors, including those of a fundamentally different design. But the intrinsic record could not

be clearer — the inventor disclosed only sensors that use mechanical deformation to trigger the signal, and characterized such technology as a fundamental principle of his invention. ADI and Bosch explain below how the disputed terms of the ’364 patent should be construed to capture the actual invention the inventor claimed to have conceived.

II. BACKGROUND

A. Wacoh.

Wacoh is a small Japanese company. It appears to be a patent licensing entity that does not make products. Kazuhiro Okada, the sole named inventor of the ’364 patent, is its President. He and Wacoh obtain patents and seek licenses from others, or file lawsuits against them.

The ’364 patent traces its origin back to 1990, when Wacoh filed a patent application on a “mechanical deformation” sensor and a method for testing it. Ex. A (’364 patent); Ex. B (U.S. Pat. No. 5,295,386, which issued from the original application, App. No. 07/761,771, Dec. 26, 1990). Over the next 20 years, Okada exploited the Patent Office rules to convert this application into no fewer than ten patents. Ex. C (’364 patent family tree). Each time a new patent was about to issue, Okada would file another application, claiming priority to the first application to keep the patent family alive. This process enabled him to monitor the industry and write broader patent claims to try to cover different technologies.

B. The ’364 patent.

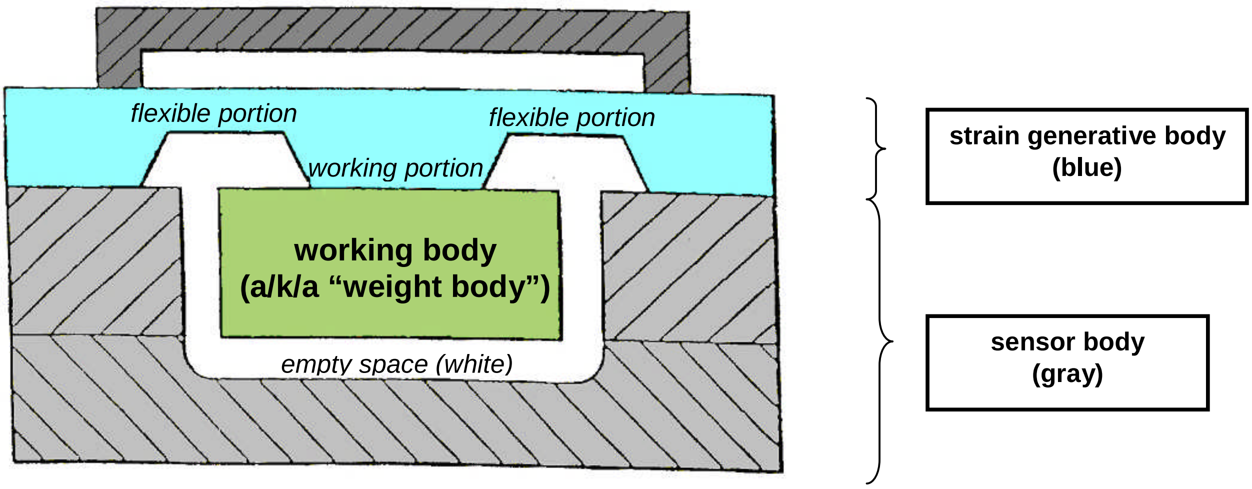
In 2000, after new technologies for detecting acceleration became widespread in the industry, Okada filed the application that became the ’364 patent. In that application, he wrote claims that generically referred to movement being transformed into an electric signal, without specifying that the movement is transformed into an electric signal by deforming piezoresistive material. In doing so, he attempted to convert an invention limited to sensors based on the “mechanical deformation” technology to a patent purporting to cover all types of sensor technology. But in order for the ’364 patent to claim priority to the original application, it had to contain the same specification as that original 1990 filing, in which Okada disclosed in detail the invention he purported to have conceived. As discussed below, that disclosure is limited to

sensors that use mechanical deformation of a piezoresistive material to trigger the electrical signal. Indeed, the ’364 patent describes this mechanism as the “basic principle” of the invention.

1. The ’364 patent discloses a “mechanical deformation” sensor.

The ’364 patent addresses a sensor for detecting a force or a sudden acceleration or deceleration (in which case the sensor would be an accelerometer), and a method of testing the sensor to make sure it is operating correctly. Ex. A, col. 1, *ll.* 15-24. As Okada acknowledged in the patent, he did not invent sensors or accelerometers; they were known well before he filed his original application in 1990. *Id.*, col. 1, *l.* 63 – col. 2, *l.* 6. Nor does Okada claim to have invented the method of testing the sensor disclosed in the ’364 patent. The method he adopted was described in a prior art patent, U.S. Patent No. 5,103,677 (the “Allen” patent). Ex. D, col. 2, *ll.* 56-63. The purported novelty of the ’364 patent is using the method to test a particular type of sensor, namely, one that utilizes the deformation of piezoresistive material to trigger the electric signal. Thus, the ’364 patent claims have two distinct sections — one describing the structure of this mechanical deformation sensor and the other describing the method of testing that sensor.

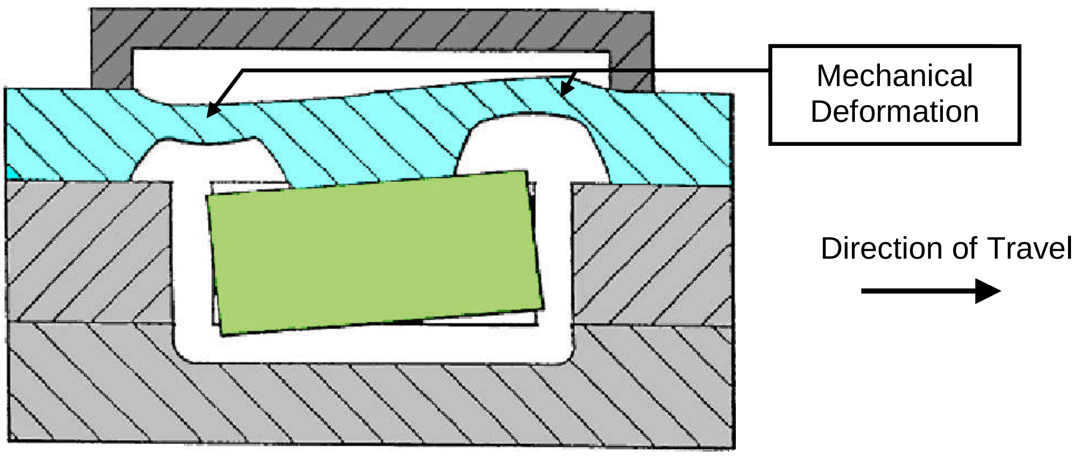
The structure of the claimed sensor is generally shown in Figure 20 of the patent, which is reproduced below with annotations to assist the Court in understanding the technology.



Ex. A, Fig. 20 (annotated).

The sensor consists of two main portions. The portion shown in blue is referred to as the "strain generative body." This is constructed of a material that can bend at the thinner, flexible portion (shown above). *Id.* col. 5, *ll.* 7-11, 56-60; col. 6, *ll.* 27-31; col. 6, *ll.* 61-65; col. 13, *ll.* 35-37. It is called a "strain generative body" because it generates "strain" (deformation) when it bends in response to an applied force. The green portion of the sensor is called the "working body" or "weight body." It hangs from the strain generative body like a pendulum, suspended in air and capable of swinging forward or back. *Id*. col. 5, *ll.* 12-13, 61-62; col. 6, *ll.* 32-36; col. 14, *ll.* 19-20*;* col. 29, *ll.* 15-16.

When a vehicle containing a sensor is moving at a constant speed, the vehicle and the sensor both move at that speed. When the vehicle comes to a sudden stop, such as in a front-end collision, the sensor body will also stop moving. But because the working body is hanging in air, it continues to move — much like a passenger not wearing a seatbelt. *Id.* col. 15, *ll.* 52-56. Being a pendulum, the working body moves forward and up. As the working body swings, it transmits a force that bends the strain generative body at its thinner, flexible portions. *Id.* col. 5, *ll.* 7-13, 56-62; col. 6, *ll.* 27-37. This displacement of the working body and bending of the strain generative body are shown below in Figure 21 from the patent. *Id.* col. 22, *ll.* 47-54.



Id. Fig. 21 (annotated).

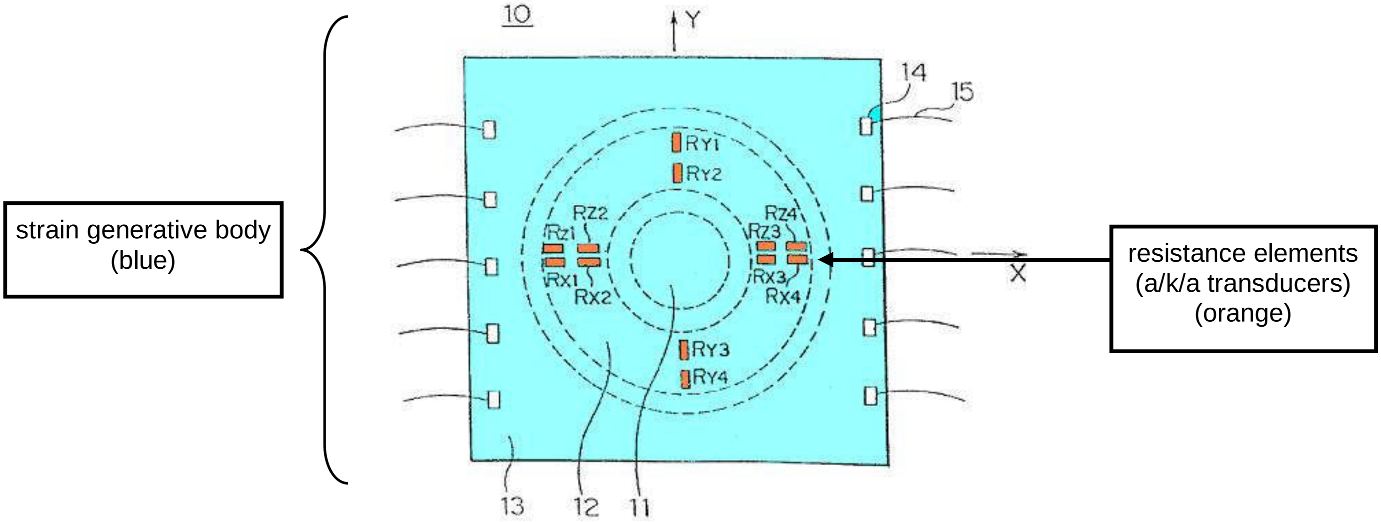
The ’364 patent specification explains how the movement of the weight body causes mechanical deformation:

> When an acceleration is applied to this sensor, an external force is exerted on the weight body. This external force is transmitted to the working portion [of the strain generative body]. As a result, a *mechanical deformation* is produced in the flexible portion [of the strain generative body]. Thus, there occur changes in the electric resistance values of the resistance elements.

Id. col. 14, *ll.* 26-31 (emphasis added and numbering omitted); *see also id.* col. 5, *ll.* 14-18, 63-67; col. 6, *ll.* 37-39.

As the last sentence of the above passage states, the bending of the flexible portion of the strain generative body causes piezoresistive “resistance elements” located on the top surface of the flexible portion of the strain generative body to undergo mechanical deformation as well. Because they are piezoresistive, the deformation of the resistance elements in turn causes a change in their electrical resistance that can be measured. *Id.* col. 1, *ll.* 29-31 (“piezo resistive” means that “electric resistance varies in dependency upon a mechanical deformation”); *see also id.* col. 29, *ll.* 27-34; col. 14, *ll.* 26-41; col. 15, *ll.* 60-63. The ’364 patent refers to these resistance elements as a specific type of “transducer” that is “formed for transforming a mechanical deformation to an electric signal.” *Id.* col. 9, *ll.* 39-41.[1] *See also* col. 3, *ll.* 4-6 (referring to the “resistance elements” as what is described in column 9 as part of the “third object” of “this invention”). These resistance elements can be seen (in orange) in a view of the sensor from above in Figure 2 of the patent:

[1] In general, a “transducer” is “[a] device that converts one form of energy into another.” Ex. E (DICTIONARY OF SCIENCE & TECH. 2246 (Academic Press 1992)). As noted in the text, however, Okada limited the meaning of this term in his patent to a more specific type of “transducer” that “is formed for transforming a mechanical deformation to an electric signal.” Ex. A, col. 9, *ll.* 39-41.



Id. Fig. 2 (annotated); *see also id.* col. 13, *ll.* 41-44; col. 14, *l.* 66 - col. 15, *l.* 5.

Thus, when the flexible portion of the strain generative body deforms, these resistance elements also deform, transforming the mechanical deformation into an electrical signal. *Id.* col. 14, *ll.* 30-41; col. 15, *ll.* 1-17, 60-67. That electrical signal is what tells the airbag to deploy.

2. “Mechanical deformation” is a required element of the claimed sensor.

The ’364 patent specification repeatedly describes and illustrates the invention as requiring mechanical deformation to trigger an electric signal according to the principles described above.

- The “Abstract” of the patent describes the patented sensor as including “detector means for transforming a *mechanical deformation* produced in the semiconductor pellet to an electrical signal.” Ex. A, Abstract (emphasis added).

- The “Background Art” section of the patent describes the field to which the invention pertains as sensors that detect a mechanical deformation caused by an applied force:

> [A]cceleration sensors or magnetic sensors to which such force sensors are applied are also proposed. In either detector, a strain generative body partially having flexibility is used to detect a *mechanical deformation* produced in the strain generative body as changes in electric resistance of the resistance elements.

Id. col. 1, *ll.* 31-37 (emphasis added).

- The whole "Disclosure of Invention" section of the patent describes what Okada viewed as "the invention." Every single embodiment of the sensor that is disclosed in that description of "the invention" includes mechanical deformation. This section — which goes on for eight columns (four pages) — repeatedly describes the "features" and "objects" of "this invention" as requiring mechanical deformation. *Id*. col. 3, *l.* 9 - col. 11, *l.* 8. This section alone uses the phrase "mechanical deformation" *25 times* in describing "features" of "this invention" (and that phrase is used 43 times throughout the entire specification). Ex. F (annotated version of the '364 patent with the phrase "mechanical deformation" highlighted in blue). For example, in describing the second object of the invention, Okada states that "[t]o achieve the second object to provide a simple testing method with respect to each sensor, *this invention has the following features*," Ex. A, col. 5, *ll.* 2-4 (emphasis added), and he proceeds to describe nine features of the invention's test method — all of which require testing of sensors that transform a mechanical deformation into an electric signal. *Id.*, col. 5, *l.* 1- col. 8, *l.* 17.

- The "Best Mode" section of the patent contains a detailed description of the invention and likewise describes and illustrates only sensors that transform a mechanical deformation into an electric signal. In particular, in describing the "*Basic Structure of the Sensor*," the patent describes an acceleration sensor that transforms a mechanical deformation into an electric signal. Ex. A, col. 14, *ll.* 26-31 ("a mechanical deformation is produced" which causes "changes in the electric resistance values of the resistance elements"); *see also id.* col. 13, *l.* 14 – col. 15, *l.* 17. Okada explains that all of his sensors have the same "basic structure of the central portion" as this sensor. *Id.* col. 13, *ll.* 19-20. Okada further describes the mechanical deformation sensor as the "basic principle of detection of acceleration" in his invention:

> When an acceleration is applied to the package, an external force is exerted on the weight body due to this acceleration. As a result, the weight body is subjected to displacement from a fixed position . . . . A mechanical strain produced by this displacement is absorbed by a *mechanical deformation* of the flexible portion. When there occurs a *mechanical deformation* in the flexible

> portion, the electric resistance values of the resistance elements R formed on the flexible portion vary. As a result . . . needles of the voltage meters . . . swing. *This is the basic principle of detection of acceleration by this apparatus*.

Ex. A, col. 15, *ll.* 52-67 (emphasis added and numbering omitted).

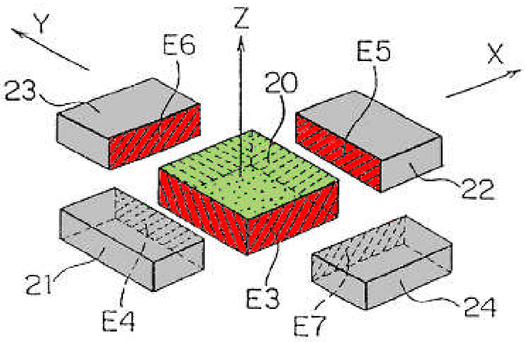
- The "Figures" of the patent all imply or expressly illustrate mechanical deformation sensors. *See*, *e.g.*, Figs. 1, 2, 17, 19, 51. In some cases, the patent expressly refers to the figures as embodiments of "*this invention*." *Id.* col. 11, *l.* 11 (Fig. 1); col. 12, *ll.* 30-31 (Fig. 31); col. 12, *l.* 52 (Figs. 40, 41); col. 12, *l.* 55 (Figs. 42, 43); col. 12, *l.* 62 (Fig. 45); col. 12, *l.* 64 (Figs. 46, 47).

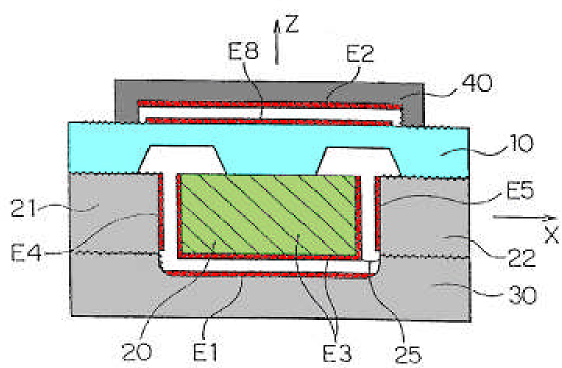
The '364 specification does not refer to, describe, or illustrate any type of sensor that works without mechanical deformation.

3. The '364 patent discloses a method of testing the "mechanical deformation" sensor.

As noted above, the '364 patent also discloses a method for testing the "mechanical deformation" sensor during the manufacturing process. *Id.* col. 2, *ll.* 15-38. The purpose of testing is to assure that the sensor is in working order without actually subjecting it to sudden deceleration or acceleration, a time-consuming step that may damage the device. *Id.* col. 20, *ll.* 47-61. Okada employed a method of testing that was already known in the prior art, which uses electrostatic forces to cause the working body to move in lieu of subjecting the entire sensor to movement. Ex. D, col. 2, *ll.* 56-63. When the working body moves, it causes the deformation of the strain generative body and piezoresistive elements, which in turn triggers the electric signal. In this manner, the internal electrostatic forces can be used to cause the working body to move without subjecting the device to an external jolt or blow.

The '364 patent discloses that to create the internal electrostatic forces needed to carry out the test, opposing electrode layers are "formed" (constructed) on the sides and bottom of the working body (designated as E3) and on surfaces facing the working body (designated as E1, E2, E4, E5, E6, E7, E8) as shown in red in Figures 17 and 19 of the patent below:





Ex. A, Figs. 17, 19 (annotated); col. 20, *l.* 62 – col. 21, *l.* 36. During testing, voltages are applied to the electrode layers to create attractive and repulsive forces between opposite electrodes. *Id.* col. 21, *l.* 50 – col. 22, *l.* 15. The attractive and repulsive forces cause the working body to move, mimicking the movement of the working body relative to the rest of the sensor during the sudden change in speed of a car accident. This movement causes the same mechanical deformation of the strain generative body that occurs during normal operation of the sensor. The resistance elements then transform the deformation into an electric signal, which confirms that the sensor is operating correctly. *Id.* col. 5, *ll.* 26-34; col. 6, *ll.* 48-52; col. 15, *ll.* 60-65.

In prosecuting the parent application from which the '364 patent derives, Okada characterized his invention as constituting ***only*** the application of the testing method to the particular sensor structure in which a strain generative body deforms, which he characterized as "unique." He told the Patent Office: "The testing method of the present invention aims to be applied *to a particular sensor having a unique structure* which comprises a strain generative body, a working body and detector means." Ex. G (U.S. App. No. 08/168,024 Amendment, Oct. 5, 1994) at 15 (emphasis added). He then referred to Figures 1 and 2 of the specification, and noted that he was limiting his invention to the testing of those specific types of sensors: "We do not hesitate to limit the scope of the present invention to a testing method applied for only this type of particular sensors." *Id.*

III. LEGAL STANDARDS

Claim construction is a matter of law, and is the responsibility of the trial court. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996). It is "the process of giving proper meaning to the claim language." *Abtox, Inc. v. Exitron Corp*., 122 F.3d 1019, 1023 (Fed. Cir. 1997). This process is necessary to "define[] the scope of the protected invention." *Id*. (citation omitted).

A claim term is to be given the "ordinary and customary meaning" that it would be given by one of ordinary skill in the art at the time of the invention, which is the priority filing date to which the patent application is entitled. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (*en banc*). To ascertain this meaning, the Court primarily looks to the "intrinsic" evidence: the claim language, the patent specification, and the prosecution history. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (*en banc*).

Because the claims "are part of 'a fully integrated written instrument,' [they] 'must be read in view of the specification, of which they are a part.'" *Phillips*, 415 F.3d at 1315 (citations omitted). "Properly viewed, the 'ordinary meaning' of a claim term is its meaning to the ordinary artisan after reading the entire patent." *Id.* at 1321. Thus, "the specification 'is always highly relevant to the claim construction analysis.'" *Id.* at 1315 (citation omitted). Indeed, "[u]sually, [the specification] is dispositive; it is the single best guide to the meaning of a disputed term." *Id*. (citations omitted). "In light of the statutory directive [in 35 U.S.C. § 112, ¶ 1] that the inventor provide a 'full' and 'exact' description of the claimed invention, the specification necessarily informs the proper construction of the claims." *Id*. at 1316. "It is therefore entirely appropriate for a court, when conducting claim construction, to rely heavily on the written description for guidance as to the meaning of the clams." *Id*. at 1317.

The specification may reveal that the inventor acted as his own lexicographer and gave a claim term a special definition that differs from the term's ordinary meaning. *Id.* at 1316. In such cases, the inventor's special definition governs. *Id.*; *Honeywell Int'l, Inc. v. Universal Avionics Sys. Corp.*, 493 F.3d 1358, 1361-64 (Fed. Cir. 2007). The special definition need not be

express, but may be implied by the full specification. *Phillips*, 415 F.3d at 1320-21; *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1344-45 (Fed. Cir. 2001).

And where the specification describes particular attributes of a method or structure as "the present invention" or "this invention," this description limits the scope of the claims even if the claims might otherwise be susceptible to a broader interpretation. *Alloc, Inc. v. International Trade Comm'n*, 342 F.3d 1361, 1368-70 (Fed. Cir. 2003). "[W]here the specification makes clear at various points that the claimed invention is narrower than the claim language might imply, it is entirely permissible and proper to limit the claims." *Id.* at 1370. *See also Honeywell Int'l, Inc. v. ITT Indus., Inc.*, 452 F.3d 1312, 1317-20 (Fed. Cir. 2006); *SciMed*, 242 F.3d at 1340-45. In this context, the claims are properly limited to the invention disclosed because "[t]he public is entitled to take the patentee at his word." *Honeywell*, 452 F.3d at 1318.

The prosecution history may also act to limit the scope of the claims. Where the inventor clearly defines claim scope or disclaims claim coverage during prosecution before the Patent Office in order to gain allowance of his claim, the claims should be so limited. *Bell Atlantic Network Servs., Inc. v. Covad Commc'ns. Group, Inc.*, 262 F.3d 1258, 1273 (Fed. Cir. 2001); *Standard Oil Co. v. American Cyanamid Co.*, 774 F.2d 448, 452 (Fed. Cir. 1985).

IV. ARGUMENT

The parties have identified eight claim terms that require construction. Three of these terms come from the "sensor structure" portion of the claims and five come from the "test method" portion of the claims.

Reproduced below is the "sensor structure" portion of claim 1; the three claim terms in dispute are highlighted in yellow.

> 1. A method of testing a sensor, *said sensor comprising*:
>
> a substrate arranged along an XY-plane of an XYZ three-dimensional coordinate system;
>
> a working body receiving a force and located adjacent to said substrate with a predetermined distance;

> a flexible member supporting said working body at a periphery thereof so that said working body is suspended and spatial deviation of said working body is produced by applying said force thereto;
>
> a fixing member fixing said flexible member to said substrate; and
>
> a transducer for transforming said spatial deviation into an electric signal that indicates a direction and a magnitude of said force, . . .

Ex. A, col. 34, *ll.* 40-54 (emphasis added).

The "test method" portion of claim 1 is set forth below, again with the disputed terms highlighted in yellow:

> . . . *said method comprising* the steps of:
>
> providing a capacitance element including a deviation electrode and a fixed electrode, said deviation electrode being located at a position which deviates along with said working body and said fixed electrode being fixed to said substrate so as to face said deviation electrode, and said capacitance element being arranged so that an electrode distance of said capacitance element changes when said working body is deviated in an X-axis direction of said XYZ three-dimensional coordinate system;
>
> applying a voltage between said deviation electrode and said fixed electrode so that Coulomb force is produced which causes spatial deviation of said working body in said X-axis direction;
>
> detecting an electric signal transformed by said transducer while said spatial deviation is caused by applying said voltage; and
>
> testing an operation of said sensor with respect to said X-axis direction based on a relationship between said applied voltage and said detected electric signal.

Id. col. 34, *l.* 55 – col. 35, *l.* 8 (emphasis added).

We discuss first the "sensor structure" claim terms, followed by the "test method" terms.

A. The sensor structure claim terms should be interpreted to cover only "mechanical deformation" sensors.

1. "A transducer for transforming . . ."

Term	Defendants' Proposed Construction	Wacoh's Proposed Construction
"A transducer for transforming said spatial deviation into an electric signal"	"a device for transforming a mechanical deformation, which results from the spatial deviation of the working body, into an electrical signal"	Plain meaning

The first phrase to be construed, "a transducer for transforming said spatial deviation into an electric signal," presents one of the key dispositive issues in the case. ADI and Bosch submit that this phrase should be construed to reflect, in accordance with Okada's own description of his invention, that the electrical signal results from "mechanical deformation." Wacoh submits that the phrase should be given its "plain meaning." But the flaw in adopting Wacoh's position is that it would remove "mechanical deformation" as a requirement of the invention in contradiction of everything stated in the intrinsic record.

a) The patent specification and prosecution history make clear that "mechanical deformation" is an essential feature of the invention.

ADI's and Bosch's proposed construction reflects the fact that the very character of the '364 patent's claimed invention involves mechanical deformation. To begin with, "transducer" is a claim limitation that requires mechanical deformation. This is demonstrated by the language of the transducer element, as well as the surrounding claim language. The claims require a working body that is subjected to a force, such as an acceleration. Ex. A, col. 34, *ll.* 44-45. The transducer enables the sensor to detect this force by transforming the resulting spatial deviation of the working body into an electric signal, which is then detected. *Id*. col. 34, *ll.* 48-53. But the patent teaches that mechanical deformation is the only mechanism by which the '364 patent's claimed invention accomplishes this transformation of spatial deviation into an electric

signal to detect the force applied to the working body. In fact, the patent describes the mechanical deformation sensor as the "basic principle of detection of acceleration":

> When an acceleration is applied to the package, an external force is exerted on the weight body due to this acceleration. As a result, the weight body is subjected to displacement from a fixed position. . . . A mechanical strain produced by this displacement is absorbed by a *mechanical deformation* of the flexible portion. When there occurs a *mechanical deformation* in the flexible portion, the electric resistance values of the resistance elements R formed on the flexible portion vary. As a result . . . needles of the voltage meters . . . swing. *This is the basic principle of detection of acceleration by this apparatus*.

Id. col. 15, *ll.* 52-67 (emphasis added and numbering omitted).

Moreover, ADI's and Bosch's proposed definition — "a device for transforming a mechanical deformation, which results from the spatial deviation of the working body, into an electrical signal" — tracks virtually verbatim Okada's own definition of the "transducer" element in the patent. The term "transducer" appears *only once* in the specification, where Okada expressly defined this term as follows:

> . . . a transducer is formed for transforming a *mechanical deformation* to an electric signal.

Ex. A, col. 9, *ll.* 39-41 (emphasis added). Thus, while other types of devices may generically be called transducers, Okada gave "transducer" this special definition in the context of his invention, namely, a device that transforms "a mechanical deformation to an electric signal." It is well-settled that when an inventor acts as his own "lexicographer" by assigning such "a special definition . . . to a claim term," "the inventor's lexicography governs" and the claim term should be given that special meaning. *Phillips*, 415 F.3d at 1316; *Honeywell*, 493 F.3d at 1361-64 (interpreting claim term "heading" in accordance with the special definition set forth in the patent specification because "[w]hen a patentee defines a claim term, the patentee's definition governs"). In this case, Okada acted as his own lexicographer by defining the term "transducer" and that definition governs.

The rest of the ’364 patent’s specification confirms that mechanical deformation is an essential part of the invention and thus that the claimed “transducer” must “transform a mechanical deformation into an electric signal.” As discussed above, the specification repeatedly describes the claimed invention as being based on this “mechanical deformation” technology. The phrase “mechanical deformation” is used 43 times in the specification. Ex. F. The “Disclosure of the Invention” section describes the key “objects” and “features” of “the invention” as requiring mechanical deformation. Ex. A, col. 3, *l.* 9 – col. 11, *l.* 8. Every figure and embodiment described in the specification requires mechanical deformation. The specification does not refer to any other type of technology for triggering the electric signal.

The prosecution history in the Patent Office confirms that Okada was well aware of other types of sensors but understood his invention to be limited to the mechanical deformation sensors disclosed in the specification. In trying to avoid the Allen prior art in a parent patent application with the same specification as the ’364 patent, Okada told the Patent Office that he intended to “limit the scope of the present invention” to a testing method “for only this type of particular sensors.” Ex. G at 15. To determine what particular type of sensor he was referring to, it is necessary to consult the specification, which only discloses mechanical deformation sensors. Because the specification only discloses one type of sensor, no one could reasonably conclude that by referring to “this type of particular sensors,” Okada was referring to anything other than a mechanical deformation sensor.[2] Okada’s awareness of other types of sensor technologies is also evident because he applied for other patents on sensors that did not use mechanical deformation to detect acceleration. *See, e.g.*, Ex. I (U.S. Patent No. 5,343,765 (Okada)).

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[2] Okada made this statement in the application for U.S. Patent No. 6,474,133 (the “’133 patent”), a parent of the ’364 patent. Ex. H (the ’133 patent). The parent application and the ’364 patent share the same specification. *Compare* Ex. A *with* Ex. H. Statements made during the prosecution of a parent patent application are part of the intrinsic record for the child applications. *Microsoft Corp. v. Multi-Tech. Sys., Inc.*, 357 F.3d 1340, 1349-50 (Fed. Cir. 2004) (finding statements in common specification relevant to limit claim language of later-issued patent); *Alloc*, 342 F.3d at 1371-72 (reviewing statements in parent application prosecution history to determine scope of the claimed invention).

b) Under Federal Circuit law, the claims must be construed to be limited to the invention actually described in the specification.

Wacoh has not offered an alternative construction of the "transducer" term. Its position is likely to be that the Court should ignore the multitude of references to "mechanical deformation" in the specification and give them no effect. In urging the Court to do so, Wacoh hopes that the claim construction proceedings will allow it to assert the claims against ADI's and Bosch's accelerometers that do not use mechanical deformation to trigger an electric signal. Such a result would significantly expand the claimed invention beyond anything Okada invented and described in the specification, violating settled claim construction law.

Wacoh will undoubtedly argue that ADI's and Bosch's proposed construction improperly imports a limitation from a preferred embodiment into the claim. ADI and Bosch are doing no such thing, and the unequivocal statements in the '364 patent specification, limiting sensors to "mechanical deformation" sensors, cannot be ignored as Wacoh likely will advocate. As the Federal Circuit observed in *Phillips*, the specification "is the single best guide to the meaning of a disputed term." *Phillips*, 415 F.3d at 1315. In *Phillips*, the court explained that in many instances it will be clear from the specification that the inventor intended the claims to be "strictly coextensive" with the embodiments described in the specification, as opposed to the embodiments being examples of a broader invention. *Id.* at 1323. . There is ample precedent to guide the Court in applying this principle.

A long line of Federal Circuit authority addresses the very situation now before the Court, where the intrinsic evidence shows that the inventor conceived and disclosed a more limited invention, but seeks broader application of his claims. In such cases, the court has repeatedly held that claims must be construed to encompass only the invention described in the specification, even if the claim language standing alone might otherwise be susceptible to a broader interpretation. *See, e.g., ICU Med., Inc. v. Alaris Med. Sys., Inc.*, 558 F.3d 1368, 1374-75 (Fed. Cir. 2009) (limiting "spike" to a pointed spike where the specification "repeatedly and uniformly" described the claimed spike as a pointed instrument and never suggested that the

spike could be anything other than pointed); *Honeywell*, 452 F.3d at 1318 (limiting "fuel injection system component" claim term to a fuel filter where "[o]n at least four occasions, the written description refers to the fuel filter as 'this invention' or 'the present invention'"); *C.R. Bard, Inc. v. United States Surgical Corp.*, 388 F.3d 858, 863 (Fed. Cir. 2004) (limiting claimed "plug" to a pleated plug because "in various ways and places, the specification defines the claimed plug as having pleats"); *Microsoft*, 357 F.3d at 1348 (holding that "[i]n light of those clear statements in the specification that the invention ('the present system') is directed to communications 'over a standard telephone line,' we cannot read the claims of [the patents in suit] to encompass data transmission over a packet-switched network such as the Internet"); *Alloc*, 342 F.3d at 1368-73 (limiting claims to require "play" where specification described "the invention" as requiring play between floor panels); *SciMed*, 242 F.3d at 1343 (limiting claimed catheters to those with coaxial lumens where specification referred to this as the basic structure of "the present invention").

One of the cases in this line of authority — *Honeywell International, Inc. v. ITT Industries, Inc.*, 452 F.3d 1312 (Fed. Cir. 2006) — originated in this Court. The patents at issue used the term "fuel injection system component" in the claims, which the patentee argued was broad enough to cover all types of fuel injection components. Yet both the district court (Judge Cohn) and the Federal Circuit consulted the specification and found that the inventor described his invention as requiring a fuel filter, not just any fuel injection system component. This Court therefore limited the broad claim term to "fuel filter":

> The specification language could not be any clearer. . . . Based on the '879 patent specification, construing "fuel injection system component" to mean any part (rather than just a fuel filter) would ignore binding Federal Circuit precedent, particularly *SciMed* and *Modine [Mfg. Co. v. Int'l Trade Comm'n*, 75 F.3d 1545, 1551 (Fed. Cir. 1996)]. There is a heavy presumption of ordinary meaning in patent claim construction, but in this case the specification leads to the inescapable conclusion that the ordinary meaning of "fuel injection system component" simply does not apply.

Honeywell Int'l, Inc. v. ITT Indus., Inc., 330 F. Supp. 2d 865, 880 (E.D. Mich. 2004). The Federal Circuit affirmed, holding that "[t]he public is entitled to take the patentee at his word, and the word was that the invention is a fuel filter." *Honeywell*, 452 F.3d at 1318. In reviewing the specification, the Federal Circuit concluded that it inescapably led to the conclusion that the only fuel injection system component described as part of the invention was a fuel filter. *Id.*

A similar issue arose in *SciMed Life Systems, Inc. v. Advanced Cardiovascular Systems, Inc.*, 242 F.3d 1337 (Fed. Cir. 2001). In *SciMed*, the court considered whether the claims should cover double lumen catheters that had two possible configurations — side-by-side lumens or coaxial lumens. *Id.* at 1339. The claims, on their face, were not limited to a particular configuration. But the court examined the specification, and observed that "[a]t various points, the common specification of the three patents indicates that the claimed invention uses coaxial, rather than side-by-side lumens." *Id*. at 1342. The court found that the specification's "characterization of the coaxial configuration as part of the 'present invention' is strong evidence that the claims should not be read to encompass the [alternative] structure." *Id.* at 1343. And the court found the "most compelling portion of the specification" to be that portion in which the inventor described "the basic sleeve structure" of the invention as using coaxial lumens. *Id.* The court concluded that the specification "[led] to the inescapable conclusion" that the claims read "only on catheters having coaxial lumens," and thus limited the claim language. *Id*. at 1342.

Another instructive Federal Circuit decision is *Alloc, Inc. v. International Trade Commission*, 342 F.3d 1361 (Fed. Cir. 2003). In *Alloc*, the court was considering the claim construction for claims related to floor panels. Even though none of the asserted claims expressly required "play" (*i.e.*, space) between a claimed locking groove and locking surface, the Federal Circuit nonetheless construed the claims to require play. *Id.* at 1368-69. The court relied on the specification that described "the invention" as requiring play. *Id*. The court's conclusion was reinforced by the fact that the patent specification described the objects and features of the invention as "teach[ing] that the invention as a whole, not merely a preferred embodiment, provides for play in the positioning of floor panels." *Id.* at 1369.

In *C.R. Bard, Inc. v. United States Surgical Corp.*, 388 F.3d 858 (Fed. Cir. 2004), the Federal Circuit considered claim construction relating to hernia "plugs" — medical devices used to plug up hernias. The district court reviewed the specification and concluded that the claimed plug must contain "pre-formed pleats." *Id.* at 861. The patentee argued that the plugs should not be limited to plugs with a particular structure. The Federal Circuit disagreed, because "[i]n the intrinsic record, the claimed plug is consistently described as having pleats." *Id*. at 860. The court observed that the specification in various places described the invention as a pleated plug, *id*. at 863-64, and noted in particular that the "Summary of the Invention" section characterized "[t]he present invention" as having pleats. *Id.* at 860, 864. The court also found the placement of this description in the "Summary of the Invention" to be significant:

> Statements that describe the invention as a whole, rather than statements that describe only preferred embodiments, are more likely to support a limiting definition of a claim term. Statements that describe the invention as a whole are more likely to be found in certain sections of the specification, such as the Summary of the Invention.

Id. at 864 (citation omitted).

Applying the holding in *Honeywell* and the other Federal Circuit decisions cited above in this case leaves no doubt that Wacoh is not entitled to a broad claim construction of "transducer" that would remove "mechanical deformation" as a requirement of the claimed invention. The '364 patent specification makes clear that the only type of sensor Okada had in mind in disclosing his invention was a sensor that used "mechanical deformation" of the strain generative body to trigger the electric signal. The specification, including the "Disclosure of Invention" section, repeatedly refers to a mechanical deformation sensor when describing "the invention." It refers to mechanical deformation as the "basic principle" by which the disclosed sensor operates. And it explicitly states that all of its sensors share the same "basic structure." Mechanical deformation sensors are not identified as an example of the invention or merely one of the embodiments, but instead as the essential feature of the invention. There is not even a hint in the patent specification — let alone a disclosure — that Okada intended to cover sensors that

did not rely upon mechanical deformation to trigger the electric signal.[3] In light of the narrow invention that Okada described in his patent in 1990, Wacoh should not now be permitted to stretch the meaning of the claims in litigation. Thus, the "transducer for transforming . . . " element should be construed as "a device for transforming a mechanical deformation, which results from the spatial deviation of the working body, into an electrical signal."

2. "Working body."

Term	Defendants' Proposed Construction	Wacoh's Proposed Construction
"working body"	"a structure that transmits the received force to the transducer"	Plain meaning

The second term to be construed is "working body." This term also appears in the "sensor structure" portion of the claims, in the following context: "a working body receiving a force and located adjacent to said substrate with a predetermined distance. . . ." Ex. A, col. 34, *ll.* 44-45. ADI's and Bosch's proposed construction tracks the intrinsic evidence, and defines the "work" performed by the working body after it receives the force, namely, transmitting that received force to the transducer. Wacoh again proposes "plain meaning."

The claims provide guidance as to the meaning of "working body." *Phillips*, 415 F.3d at 1314 ("the context in which a term is used in the asserted claim can be highly instructive"); *ACTV, Inc. v. Walt Disney Co.*, 346 F.3d 1082, 1088 (Fed. Cir. 2003) ("the context of the surrounding words of the claim also must be considered in determining the ordinary and customary meaning of those terms"). Here, the claims use the term "working body" to refer to a structure that receives an applied force and transmits that force to the transducer, by reciting how the working body receives a force and then deviates in response to that force. Ex. A, col. 34, *ll.*

[3] Such a disclosure would have been necessary to comply with the patent statute, which requires a patent to include "a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art . . . to make and use the same." 35 U.S.C. § 112, ¶ 1.

44-45 ("a working body receiving a force and located adjacent to said substrate with a predetermined distance"), *ll.* 48-49 ("spatial deviation of said working body is produced by applying said force thereto"). The transducer then transforms that deviation of the working body into an electric signal that represents the force. *Id.* col. 34, *ll.* 53-54 ("a transducer for transforming said spatial deviation into an electric signal that indicates a direction and a magnitude of said force").

The specification confirms ADI's and Bosch's proposed construction by repeatedly using the term "working body" to refer to the structure that transmits the received force to the transducer (*i.e.*, the piezoresistive elements) on the strain generative body so that the force can be detected. *Id.*, Abstract ("a working body for transmitting an exerted force to the working portion"), col. 5, *ll.* 12-13 ("a working body for transmitting an applied force to the working portion"); col. 5, *ll.* 61-62 (same); col. 8, *ll.* 39-41 (same); col. 9, *ll.* 31-49 (same). *See also id.* col. 14, *ll.* 26-31 (describing how the weight body transmits an external force to the strain generative body, producing mechanical deformation and changing the electric resistance values of the resistance elements). ADI's and Bosch's construction is also consistent with the definition of "work" in physics: "The transference of energy that occurs when a force is applied to a body." Ex. J (MCGRAW-HILL DICTIONARY OF SCIENTIFIC & TECHNICAL TERMS 1763 (3d ed. 1984)).

Wacoh offers no construction even though "working body" is not a recognized term of art. In arguing that "working body" should be given a "plain meaning," Wacoh erroneously assumes that this term has a plain meaning in the absence of claim construction. Therefore, ADI's and Bosch's construction should be adopted and "working body" should be construed as "a structure that transmits the received force to the transducer."

3. "Spatial deviation."

Term	**Defendants' Proposed Construction**	**Wacoh's Proposed Construction**
"spatial deviation"	"movement that includes a vertical direction"	"movement"

The third term to be construed is "spatial deviation." This term appears in the context of the claims as follows: "spatial deviation of said working body is produced by applying said force thereto." Ex. A, col. 34, *ll.* 48-49. The parties agree that spatial deviation means "movement," but disagree whether the movement must include a vertical direction. ADI's and Bosch's construction takes into account the pendulum-like swing of the working body. Wacoh's does not.

The term "spatial deviation" does not appear in the specification. But the patent figures and their accompanying description disclose the type of movement a working body experiences in the event of deceleration or acceleration. They confirm that the movement will always include a vertical direction. Figure 20 below shows the sensor at rest (object 20 is the working body), and Figure 21 shows the "spatial deviation" of the working body when it is subjected to a force:

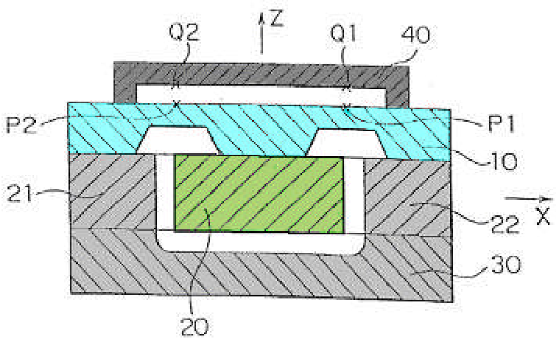


Fig. 20 (annotated).

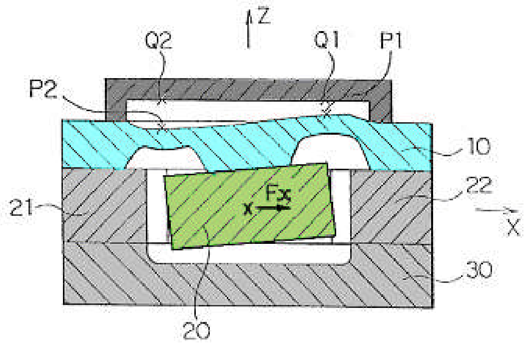
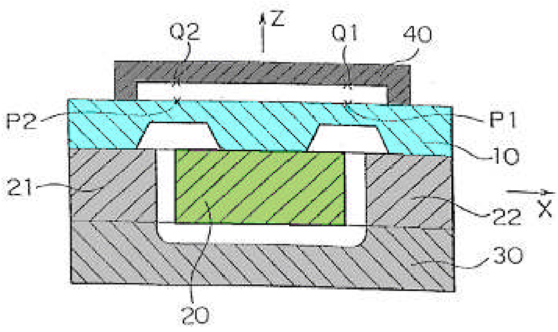
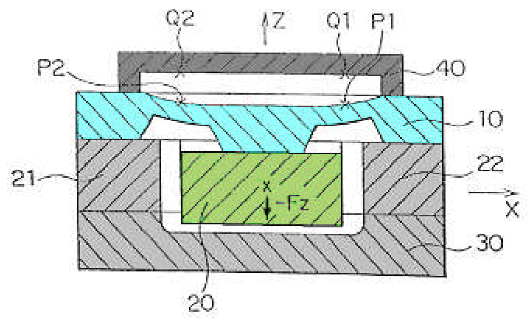


Fig. 21 (annotated).

As is evident from the figures, the working body hangs like a pendulum. Because the strain generative body includes flexible material that can deform, the working body swings not only forward but also up in response to a horizontal force along the X- or Y-axis. Similarly, as shown below in Figures 20 and 22, if a force is applied in a vertical Z-axis direction, the flexible portion will deform and the working body will move down, in the vertical direction.



Id. Fig. 20 (annotated).



Id. Fig. 22 (annotated).

These figures demonstrate that regardless of the direction of the applied force, the resulting "spatial deviation" of the working body will always include some movement in the vertical direction. Indeed, some movement in the vertical direction is necessary in order to deform the strain generative body, which in turn triggers an electric signal. *See* Figs. 21 and 22 *supra*. In order to avoid a construction of the claims that is broader than the scope of the sensor disclosed in the patent, "spatial deviation" should be construed to require some movement of the working body in the vertical direction. *Microsoft*, 357 F.3d at 1351 (proper to require limitations that were "central to the functioning of the claimed inventions").

Wacoh's proposed construction would simply replace the term "spatial deviation" with the term "movement." But "movement" alone is overly broad in two respects. It encompasses all manner of rotating, twisting, and bending, which is well beyond anything described in the specification. And it does not necessarily require movement in the vertical direction, which is an essential feature of the claimed invention. Accordingly, "spatial deviation" should be construed as "movement that includes a vertical direction."

B. The test method claim terms should be interpreted to implement the invention described in the specification.

The remaining disputed terms are from the "test method" portion of the claims. The first disputed term is the step of "providing a capacitance element" for use in creating the internal forces that move the working body during testing. The next three disputed terms — "capacitance

element," "deviation electrode," and "fixed electrode" — pertain to the structure of that capacitance element. The last term — "Coulomb force" — refers to the type of force that is created using the capacitance element in order to move the working body during the test.

1. "Providing a capacitance element."

Term	Defendants' Proposed Construction	Wacoh's Proposed Construction
"providing a capacitance element"	"forming a capacitance element within the sensor"	"providing opposing electrodes capable of holding a charge"

The first step of the test method is "providing a capacitance element." Ex. A, col. 34, *ll.* 56-65. ADI and Bosch propose that this phrase be construed to mean "forming a capacitance element within the sensor." Wacoh does not construe the term "providing" in this phrase.

Both the claim language and its context within the structure of the claim as a whole support ADI's and Bosch's proposed construction because they demonstrate that this first step of "providing" a "capacitance element" refers to constructing or "forming" the "capacitance element" inside the sensor. *Phillips*, 415 F.3d at 1314 ("the context in which a term is used in the asserted claim can be highly instructive"); *ACTV*, 346 F.3d at 1088. Specifically, before the remaining steps in the test can be carried out, including the second step of "applying a voltage between" the "deviation electrode" and "fixed electrode," this first step of the method requires that an additional structure not recited in the "sensor structure" portion of the claims — a "capacitance element" that includes the "fixed electrode" and a "deviation electrode" — must be constructed and oriented inside the sensor. *Id.* col. 34, *l.* 56 – col. 35, *l.* 8.

The patent specification confirms that "providing a capacitance element" refers to the construction or "forming" of the "capacitance element" inside the sensor. The specification does not use the term "providing" in connection with the "capacitance element" or any of its constituent electrodes. Instead, it refers to "forming" these electrodes "within the sensor." Viewed in light of the specification, one of ordinary skill in the art would understand that Okada

used the term "providing" in the claims as a synonym for the term "forming" used in the specification, and that the invention requires forming the capacitance element inside the sensor before the remaining steps of the method can be carried out.

Specifically, in the section of the patent titled "Principle of a Test Method According to this Invention," Okada begins by explaining that "[p]rior to shipping or forwarding" the sensors, "it is necessary to conduct a test as to whether or not there is any problem in the function as the acceleration sensor." Ex. A, col. 20, *ll.* 47-50.[4] He then describes the steps of his method of testing, beginning with the step of "forming" "electrode layers" "within the sensor":

> In accordance with the *testing method according to this invention*, ... The *basic principle* is as follows. *Initially, several electrode layers are formed* at predetermined portions *within the sensor*.

Ex. A, col. 20, *ll.* 62-67 (emphasis added). Okada then explains this "basic principle" by describing how these various electrode layers are "formed" at various specific locations within the sensor. *Id.* col. 21, *ll.* 2-36. He then describes the subsequent steps in the test, including the step of applying voltages to the previously formed electrode layers to generate the electrostatic forces that move the working body. *Id.* col. 21, *l.* 37 – col. 22, *l.* 27. Elsewhere, he repeats that his "method of testing a sensor" includes the step in which "a first *electrode layer is formed* at the first portion and a second *electrode layer is formed* at the second portion to carry out a test." *Id.* col. 5, *ll.* 38-40 (emphasis added). Finally, in a later section, he again describes how various "electrode plates" are "formed" at various locations within the sensor. *Id.* col. 33, *ll.* 35-49.

These statements by Okada explaining that the first step and "basic principle" of the "testing method according to his invention" is "forming" electrodes "within the sensor," coupled with the claim language and structure of the claims, demonstrate that "providing a capacitance element" should be construed to mean "forming a capacitance element within the sensor."

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[4] *See also* Ex. A, col. 2, *ll.* 15-17 ("In order to mass produce [the] sensors to deliver them on the market, it is necessary to conduct a test or inspection at the final stage of the manufacturing process.")

2. "Capacitance element."

Term	Defendants' Proposed Construction	Wacoh's Proposed Construction
"capacitance element"	"a pair of electrodes that together operate as a capacitor, each of which is distinct from the transducer"	"opposing electrodes capable of holding a charge"

The claim language recites that the "capacitance element" comprises a "fixed electrode" and a "deviation electrode." The parties agree that the "capacitance element" includes a pair of electrodes, but they disagree on how to define the electrodes further. ADI and Bosch propose that the phrase be construed to mean "a pair of electrodes that together operate as a capacitor, each of which is distinct from the transducer." Wacoh proposes that the phrase be construed to mean "opposing electrodes capable of holding a charge."

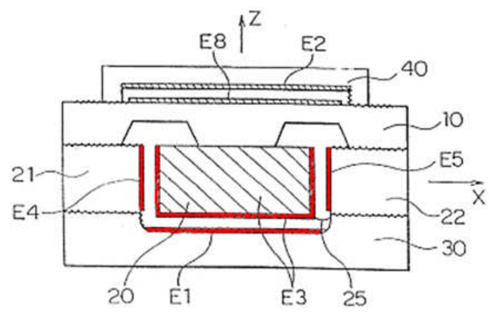
ADI's and Bosch's proposal that the phrase be construed to require that the pair of electrodes "together operate as a capacitor" is plainly correct in view of Okada's use of the term "capacitance" to modify the word "element." Why else would he have chosen to label this claim element as a "capacitance element" unless he intended it to operate as a capacitor?

The claim language and specification also support ADI's and Bosch's proposed construction that the "capacitance element" is "distinct from the transducer" by consistently treating them as distinct elements with distinct functions.

The claims use the term "capacitance element" to refer to the "deviation electrode" and the "fixed electrode" between which a voltage is applied to "cause spatial deviation" of the "working body" during the test. Thus, the claim language makes clear that this "capacitance element" is used only during the test of the sensor to move the "working body." Ex. A, col. 34, *l.* 56 – col. 35, *l.* 5. On the other hand, the claims use the different term "transducer" to refer to the different element that "transform[s]" the resulting "spatial deviation" of the working body "into an electric signal." Thus, this "transducer" is used to detect the movement of the working body. Ex. A, col. 34, *l.* 52 – col. 35, *l.* 5. And the "transducer" is recited in the "sensor structure"

portion of the claims as a structural element of the sensor, whereas the "capacitance element" is recited in the "test method" portion of the claims as an additional structural element that must be constructed inside the sensor to carry out the test. Because the claims describe these two different elements as performing two entirely different functions, they must necessarily be distinct from one another. *Becton, Dickinson & Co. v. Tyco Healthcare Group, LP*, Nos. 2009-1053, 2009-1111, ___ F.3d ____, 2010 WL 2977612, *4 (Fed. Cir. July 29, 2010) ("[T]he 'clear implication of the claim language' is that those elements are 'distinct component[s]' of the patented invention." (citation omitted)).

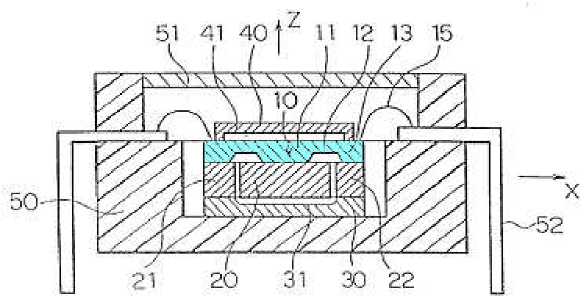
The specification confirms the distinction between the "transducer" and "capacitance element." It describes and illustrates the "capacitance element" as the electrode layers that generate electrostatic forces used to move the working body during the test, and the "transducer" as the resistance elements used to detect this movement (by transforming the resulting mechanical deformation into an electrical signal). For example, as shown in Figure 19 of the patent below, the "capacitance element" that moves weight body 20 consists of the electrode layers E3 on the bottom and side surfaces of the weight body, electrode layer E1 on the top surface of control member 30, and electrode layers E4 and E5 on the side surfaces of pedestals 21 and 22 (all colored red below).

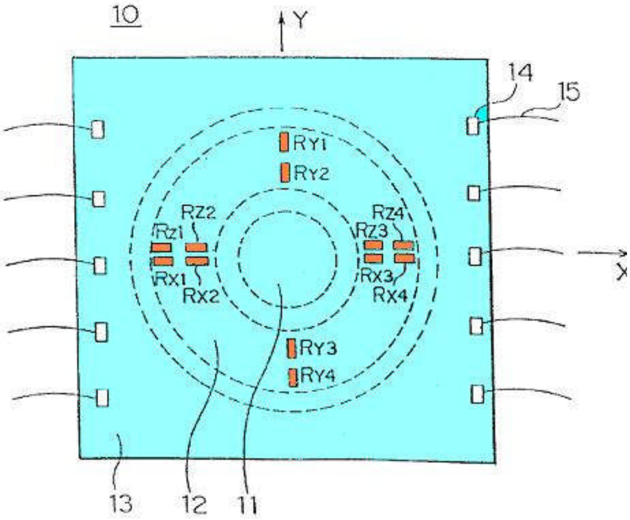


Ex. A, Fig. 19 (annotated); *see also id.* col. 21, *ll.* 6-30. On the other hand, as shown in Figures 1 and 2 of the patent below, the "transducer" that detects the force caused by the movement of the weight body consists of the piezoresistive elements Rx1-Rx4, Ry1-Ry4 and Rz1-Rz4 (colored orange below), which are located on the upper surface of the flexible portion 12 of

semiconductor pellet 10 (colored blue below), and whose resistance changes in response to the mechanical deformation produced in flexible portion 12 by the deflection of weight body 20:

FIG. 1





Id. Figs. 1 & 2 (annotated); *see also id.* col. 13, *ll.* 23-43; col. 14, *ll.* 26-41; col. 15, *ll.* 50-67.

Okada never claims, describes, or illustrates any embodiment in which the "capacitance element" and the "transducer" are not distinct elements with these distinct functions. Given this clear and consistent distinction in both the claim language and the specification, the "capacitance element" should be construed to be "distinct from the transducer." *Becton*, 2010 WL 2977612, at *5 (interpreting claim language "spring means connected to said hinged arm" to require the "spring means" and "hinged arm" to be distinct because "the specification comports with the plain language of the claims, fully supporting the conclusion that the spring means is a separate structural component of the patented invention"); *Gaus v. Conair Corp.*, 363 F.3d 1284, 1288 (Fed. Cir. 2004) (interpreting claim language "an electrical operating unit and a pair of spaced-apart . . . networks" to require the "electrical operating unit" and the "pair of . . . networks" to be distinct because "the specification plainly describes the two components as separate").

3. “Deviation electrode” and “fixed electrode.”

Term	Defendants’ Proposed Construction	Wacoh’s Proposed Construction
“deviation electrode”	“a discrete movable structure made of conductive material that is distinct from the working body”	Plain meaning
“fixed electrode”	“a discrete fixed structure made of conductive material that is distinct from the substrate”	Plain meaning

The “capacitance element” includes a “deviation electrode” and a “fixed electrode.” Ex. A, col. 34, *ll.* 56-65. ADI and Bosch propose that “deviation electrode” be construed as “a discrete movable structure made of conductive material that is distinct from the working body” and that “fixed electrode” be construed as “a discrete fixed structure made of conductive material that is distinct from the substrate.” Wacoh proposes “plain meaning” for both terms.

The claim language makes clear that the “deviation electrode” is a “movable structure” that “moves along with” the “working body.” *Id.* col. 34, *l.* 58. It also makes clear that the “fixed electrode” is a “fixed structure” that is “fixed” to the “substrate.” *Id.* col. 34, *l.* 60. Moreover, the specification describes both electrodes as being “made of conductive material.” *Id.* col. 20, *l.* 67 – col. 21, *l.* 1 (“any layer comprised of a conductive material may be used”).

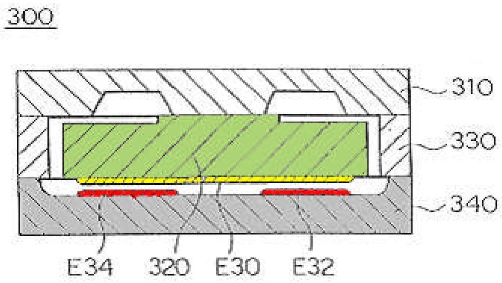
Further, both the claim language and specification make clear that these two electrodes must be “discrete” and “distinct from” the “working body” and “substrate” by treating them as distinct structures with distinct functions.

Each claim refers to the “deviation electrode” and the “working body” as separate elements and also recites that the “deviation electrode . . . deviates along with said working body.” Something cannot deviate “along with” itself — two things can only deviate along with each other if they are discrete and distinct from one another. *Becton*, 2010 WL 2977612, at *5 (interpreting the “spring means” to be distinct from the “hinged arm” to which it is “connected”).

Similarly, each claim refers to the "fixed electrode" and the "substrate" as separate elements and also recites that the "fixed electrode" is "fixed to said substrate." Something cannot be "fixed to" itself — it must be fixed to something else from which it is discrete and distinct. *Id.*

The specification confirms that the "electrodes" are discrete and distinct from the "working body" and the "substrate," respectively. For example, in describing Figure 51 of the patent, Okada explains that the "deviation electrode" (electrode plate E30) (colored yellow below) is "formed on" the bottom surface of the "working body" (weight body 320) (colored green below). Similarly, he explains that the "fixed electrodes" (electrode plates E31-E34) (colored red below) are "formed . . . on" the top surface of the "substrate" (control substrate 340) (colored gray below). The deviation electrode and the fixed electrodes could not be "formed on" the working body and the substrate, respectively, unless the deviation electrode and the working body on the one hand, and the fixed electrodes and the substrate on the other hand, were discrete and distinct from one another.

FIG. 51



Ex. A, Fig. 51 (annotated); *see also id.*, col. 21 *ll.* 12-17; col. 33, *ll.* 44-45; Fig. 19. Okada's description of the invention demonstrates that the Court should construe "deviation electrode" to be "discrete" and "distinct from the working body," and "fixed electrode" to be "discrete" and "distinct from the substrate." *Becton*, 2010 WL 2977612, at *4-5; *Gaus*, 363 F.3d at 1288.[5]

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[5] The prosecution history also demonstrates that Okada understood that the "deviation electrode" and the "working body" are distinct. During the prosecution of a related application, he amended his claims to recite that the "deviation electrode" is "located on the working body" and then argued that the Allen prior art sensor did not disclose this feature because its electrode and moveable mass were a unitary structure. Ex. K (U.S. App. No. 11/042,614 (Response to

4. **"Coulomb force."**

Term	Defendants' Proposed Construction	Wacoh's Proposed Construction
"Coulomb force"	"an attractive force when a voltage applied to the deviation electrode and a voltage applied to the fixed electrode are of opposite polarities and a repulsive force when a voltage applied to the deviation electrode and a voltage applied to the fixed electrode are of the same polarity"	"a force of attraction or repulsion caused by charged electrodes"

The second step of the test method of each claim recites "applying a voltage between said deviation electrode and said fixed electrode so that Coulomb force is produced which causes spatial deviation of said working body . . . ." Ex. A, col. 34, *l.* 66 – col. 35, *l.* 2. A "Coulomb force" is a commonly understood scientific term used to describe the force exerted on a charged body by an electric field.[6] In this respect, Wacoh's proposed construction is correct as far as it goes. But Okada acted as his own lexicographer by defining the specific types of Coulomb force, that are exerted between the "deviation electrode" and the "fixed electrode" in his sensor. In particular, he expressly defined the claimed "Coulomb force" to be: (a) an attractive force when the voltages of these two electrodes are of opposite polarities; and (b) a repulsive force when these voltages are of the same polarity. Specifically, after describing how electrode layers are "formed" within the sensor, he explained that when voltages are applied to the electrodes, the resulting Coulomb forces will either be attractive or repulsive depending on the voltage polarities:

Office Action, July 7, 2006)). The claims of the '364 patent recite that the "deviation electrode" "deviates along with" the "working body," which requires these elements to be even more distinct from one another.

[6] Ex. L (McGraw-Hill Dictionary of Physics & Mathematics 207 (1978)) ("Coulomb force: The electrostatic force of attraction or repulsion exerted by one charged particle on another, in accordance with Coulomb's law.").

> When voltages are applied to electrodes opposite in this way, respectively, *coulomb forces* are exerted between the respective both electrode layers. Namely, *when voltages of the same polarity* are applied to the both electrode layers, *a repulsive force is exerted*, while *when voltages of different polarities* are applied thereto, *an attractive force is exerted*.

Ex. A, col. 21, *ll.* 43-49 (emphasis added). He repeated this elsewhere:

> In addition, *by selecting the polarity of an applied voltage*, the *coulomb force* can be exerted as *either a repulsive force or an attractive force*.

Id., col. 5, *ll.* 50-52 (emphasis added); *see also id.*, col. 6, *ll.* 9-19.

By assigning this "special definition" to the term "Coulomb force," Okada acted as his own lexicographer and thereby limited the meaning of this term. *Phillips*, 415 F.3d at 1316; *Honeywell*, 493 F.3d at 1361-64. Accordingly, the Court should construe "Coulomb force" as ADI and Bosch have proposed, to mean "an attractive force when a voltage applied to the deviation electrode and a voltage applied to the fixed electrode are of opposite polarities and a repulsive force when a voltage applied to the deviation electrode and a voltage applied to the fixed electrode are of the same polarity."

V. CONCLUSION

For the reasons set forth above, ADI and Bosch respectfully request that the Court adopt their proposed claim constructions. A proposed order is attached as Exhibit M.

Respectfully submitted,

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Dated: September 7, 2010

CERTIFICATE OF SERVICE

I hereby certify that this document(s) filed through the ECF system will be sent electronically to the registered participants as identified on the Notice of Electronic Filing (NEF) and paper copies will be sent to those indicated as non registered participants on September 7, 2010.

Respectfully submitted,

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